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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,050	07/07/2003	Hiroyoshi Tagi	56937-081	4706

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Washington, DC 20005-3096

EXAMINER

SEMENENKO, YURIY

ART UNIT PAPER NUMBER

2841

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/613,050

Applicant(s)

TAGI ET AL.

Examiner

Yuriy Semenenko

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 6-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/7/03 page 1.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Affirmation of election is acknowledged. Applicant elects without traverse Group I and Species I (claims 1-5 drawn to a printed wiring board ), as stated in Response to Office Action filed on 09/20/2005. Claims 1-5 under consideration. Claims 6-24 have been withdrawn from consideration. Claims 1-24 are pending in this Application.

### ***Drawings***

2. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 2-5 are objected to for improper antecedent. Claims 2-5 recite the limitation "A printed wiring board". It should be --The printed wiring board--.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4.1. Claim 1 is rejected under 35U.S.C. 103(a) as being obvious over Admitted by Applicant (Prior Art, hereinafter "APA") in view of Hayashi (Patent # 6359235 hereinafter "Hayashi") and view of Jones (Patent #5227583 hereinafter "Jones").

4.1.1. Regarding claim 1: APA discloses in Fig. 7 A printed wiring board 801 comprising: an insulating board 803 which includes a plurality of electrically insulating layers which are laminated; a signal transmitting lead 805 which is provided at an interlayer between the electrically insulating layers, Fig. 7 ; an auxiliary lead 804 which is provided on the insulating board while the auxiliary lead is not in electrical contact with the signal transmitting lead; and an electromagnetic shielding layer 806 [which covers at least a part of the auxiliary lead],

except, APA doesn't explicitly teach an electronic component which is built in the insulating board .

Hayashi teaches an electronic component which is built in the insulating board.

Therefore, at time the invention was made, it was well know to use an electronic component which is built in the insulating board.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention an electronic component which is built in the insulating board.

Benefit of doing so is to further miniaturization of the printed wiring board (PWB).

APA, also, fail to expressly disclose the electromagnetic shielding layer which covers at least a part of the auxiliary lead.

Jones teaches the electromagnetic shielding layer 28, Fig. 2, which covers at least a part of the auxiliary lead 26 (column 5, lines 54-57). Therefore, at time the invention was made, it was well know to use the electromagnetic shielding layer which covers at least a part of the auxiliary lead.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention the electromagnetic shielding layer which covers at least a part of the auxiliary lead, motivated by its known suitability for its intended use. See MPEP §2144.07.

4.1.2. Regarding claim 2: Further, APA, as modified, discloses in Fig. 7 the printed wiring board 801 having all of the claimed features as discussed above with respect claim 1, wherein the electromagnetic shielding layer 806 is made of a magnetic material having magnetic loss (page 2, lines 24-27).

4.1.3. Regarding claim 3: Further, APA, as modified, discloses the printed wiring board having all of the claimed features as discussed above with respect claim 1,

except, APA, does not teach the auxiliary lead is connected to ground potential.

Jones teaches the auxiliary lead 26, Fig. 2 is connected to ground potential (column 6, lines 18-23). Therefore, at time the invention was made, it was well know to use the auxiliary lead is connected to ground potential.

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Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention the auxiliary lead is connected to ground potential.

Benefit of doing so is to stabilize the signal transmittance lines.

4.1.4. Regarding claim 4: Further, APA, as modified, discloses the printed wiring board having all of the claimed features as discussed above with respect claim 1,

except, APA, does not teach an insulating film is provided between the auxiliary lead and the electromagnetic shielding layer.

Jones teaches an insulating film 30, Fig. 2 is provided between the auxiliary lead 26 and the electromagnetic shielding layer 28. (column 5, lines 57-59). Therefore, at time the invention was made, it was well know to use an insulating film is provided between the auxiliary lead and the electromagnetic shielding layer.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention an insulating film is provided between the auxiliary lead and the electromagnetic shielding layer.

Benefit of doing so is to provide better electromagnetic shield by separation of the two circuits.

4.1.5. Regarding claim 5: Further, APA, as modified, discloses the printed wiring board having all of the claimed features as discussed above with respect claim 1,

except, APA, does not teach the signal transmitting lead has lead regions which are opposite to each other, and the auxiliary lead is provided between the opposite lead regions.

Jones teaches the signal transmitting lead 36, Fig. 1 has lead regions 38 which are opposite to each other, and the auxiliary lead 26 is provided between the opposite lead regions. Therefore, at time the invention was made, it was well know to use the signal transmitting lead which has lead regions which are opposite to each other, and the auxiliary lead is provided between the opposite lead regions.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention the signal transmitting lead has lead

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regions which are opposite to each other, and the auxiliary lead is provided between the opposite lead regions.

Benefit of doing so is to prevent a degradation of the transmitted signals.

***Relevant Art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5.1. Asahi et al. (Patent #2003/0090883 hereinafter "Asahi"). Asahi teaches a component built-in module includes an insulating layer, wirings integrated with both surfaces of the insulating layer, a via connecting the wirings, and one or more components selected from an electronic component and a semiconductor, which is embedded inside of the insulating layer. In this module, at least one of the wirings is formed on a surface of a wiring board, and the components embedded inside of the insulating layer are mounted on and integrated with the wiring board before embedding

5.1. Jensen (Patent #20030062965 hereinafter "Jensen"). Jensen discloses a circuit board of the present invention is adapted to suppress electromagnetic interference. Such a circuit board comprises an electrically conductive transmission layer defining a circuit pattern, a ferrite layer comprising a ferrite powder spaced from the electrically conductive layer transmission layer, and an insulating layer, positioned between the transmission layer and the ferrite layer, wherein the insulating layer permits transmission of the electromagnetic interference through the insulating layer.

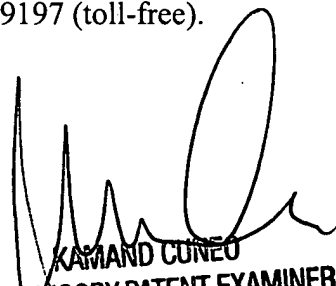
6.1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 8:30am - 5:00pm.

6.2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571)- 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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6.3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YS



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